

REMARKS

Drawings

Applicants submit that Figs. 6A-6D, 7, 8 and 10 illustrate the subject matter of claims 18 and 7 in the context of the word description of these figures and the rest of the patent application. However, if the Examiner believes that a flowchart of the steps recited in these claims is necessary, applicant would submit such a flowchart based on the written disclosure.

In Fig. 6A, the label L pertains to "the distance between the centers of the two exposing light beams." See page 16 at line 5. See, also, Fig. 7, which more clearly illustrates this distance L. The formula in claim 18 can be understood by reference to Fig. 7, which shows the two distances BO1 and BO2. Delta is the difference between the distance L in Fig. 7 and the sum of half of BO1 plus half of BO2. In view of this explanation, applicants believe that the drawings are accurate in this respect and need not be amended regarding these distances.

With respect to Form 948 of 10/02/00 referring to informalities in the drawings, applicants respectfully request that the requirement be held in abeyance until allowance of claims.

Section 112 issues

Independent claims 1 and 18 and their dependent claims do recite a phase pit that encodes information for a first track but is connected to a second track, and in this respect conform to the disclosure of a phase pit that can be viewed as a radial extension of the second track toward the first track. Applicant's attorney plans to call the Examiner in an effort to clarify this issue.

Independent claim 8 and its dependent claims do not require a phase pit for a first track to be connected to a second track. [While the specification shows examples where there is such a connection, applicants could not find statements excluding other possibilities, so long as there is a partition wall between the first track and the pit, and respectfully submit that these claims comply with Section 112 in this respect.]

Claims 1 and 18 have been amended to cancel the qualifier "substantially."
Applicants believe that "substantially" is implied in such cases and, therefore, that this does not change the scope of these claims.

Claim 8 has been amended to refer to "a partition wall," understanding that, as disclosed, a partition wall is wider in the radial direction where there are no pits and narrower where there are pits, and that the narrower portions are spaced circumferentially.

Regarding differences between the independent claims, applicants respectfully submit that they differ as noted by the Examiner. The issue of whether claim 8 needs to recite a connection between a phase pit and a track is discussed earlier.

Section 103 issues

The Office Action refers to the text at page 5 and to Fig. 14, but in context applicants believe that this may have been intended as a reference to Figs. 17A-17C (labeled prior art) and to the paragraph bridging pages 4 and 5. (Fig. 14 is not admitted prior art.)

With this understanding, Figs. 17A-17C do not show a phase pit that is separated by a partition wall from the track for which it encodes information. (Applicants' attorney has requested an English translation of Japanese Laid-Open Patent Publication No. 9-230696/1977 and, if it exists, will supply it to the Examiner.)

Applicants believe that separating a phase pit by a partition wall from the information track for which it encodes information is a significant change from known practice in the art, and solves a long-standing problem. They are not aware of prior art teaching that feature as recited in the context of the remaining requirements of the claims of record, and submit that the claims recite patentable combinations that significantly improves performance over the known prior art.

Applicants have been unable to find a teaching or suggestion of these claimed features in the secondary applied references, Tsuchiya, et al. U.S. Patent 5,477,527, Mieda, et al. U.S. Patent 5,673,250, and Sugaya, et al. U.S. Patent 5,459,712, as understood. They were unable to find a recognition of the problem to which the claimed invention is directed, or the claimed solution to that problem.

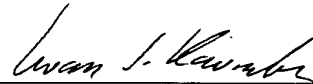
Accordingly, applicants respectfully submit that the claims of record are patentably distinct from the applied prior art and respectfully request an Office Action to that effect.

If a petition for an extension of time is required to make this amendment timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125. The Office is hereby authorized to charge any additional fees that may be required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a further telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Entry of this amendment and allowance of this application are respectfully requested.

Respectfully submitted,



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Exhibit A

1. (Amended) An optical information recording medium comprising information tracks extending in a circumferential direction and spaced from each other in a radial direction by lands, wherein:

a first information track and a second information track are radially adjacent but are radially spaced from each other by a single land;

a first phase pit encoding information for the first information track is connected to the second information track and extends radially therefrom toward, but does not reach, the first information track;

said first phase pit and said first information track being separated radially by a partition wall; and

said first phase pit and said first information track having [substantially] equal depths.

8. (Amended) An optical information recording medium comprising:

circumferentially extending grooves forming information tracks and phase pits

forming circumferentially extending preformat tracks;

a partition wall [walls] radially separating adjacent information tracks;

wherein said grooves and phase pits are equally deep; and

phase pits encoding preformat information for a given information track are radially

spaced from the groove forming the given information track by a partition wall

[walls].

18. (New) A method of mastering an optical information recording medium comprising information tracks extending in a circumferential direction and spaced from each other in a radial direction by lands, comprising:

exposing a master to a first exposing light beam for forming a first information track and a second information track that are radially adjacent but are radially spaced from each other by a single land;

exposing said master to a second exposing light beam for forming a first phase pit encoding information for the first information track, said first phase pit being connected to the second information track and extending radially therefrom toward, but not reaching, the first information track, said first phase pit and said first information track being separated radially by a partition wall, and said first phase pit and said first information track having [substantially] equal depths;

wherein, when a spot diameter of said first exposing light beam is BD1, a spot diameter of said second exposing light beam is BD2, a distance between said first and second exposing light beams is L, and the width of said partition wall in the radial direction is Δ , the values of BD1, BD2, L, and Δ satisfy the relationship:

$$\Delta = L - [(BD1/2) + (BD2/2)].$$